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Remittance Securitization as an Alternative Source of Finance for Cuba

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Remittance Securitization as an Alternative Source of Finance for Cuba

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Abstract:

In this paper we propose to leverage remittances as an alternative source of finance for the Cuban economy through one particular financial innovation—remittance securitization. This instrument has been successfully used in a number of developing countries to mitigate the risks associated with lending to a developing nation. We show how the structure of the remittance securitization for the particular case of Cuba would also mitigate those risks and could potentially allow Cuba to access capital markets at lower costs and longer terms than its sovereign credit rating would otherwise allow.

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CHAPTER 1: INTRODUCTION

Thousands of Cuban residents emigrate every year, mainly motivated by a combination of economic and political factors. This has been a recurrent problem for Cuban authorities; who have been unable to stop the emigration hemorrhage. To illustrate this issue, during 2016, it is estimated that Cuba will have five emigrants for every thousand residents (CIA 2016). In the U.S. alone, over 46,000 Cubans arrived during the first ten months of fiscal year 2016 (Krogstad 2016), adding to a population of Cuban origin in the U.S. of close to 2.1 million (see "Hispanic or Latino by Specific Origin" 2016)—extremely high numbers considering that the population in the island is 11.2 million people (see ONEI 2015).

Many of these men and women, after gaining employment in their new country, begin to send a part of their earnings—either in the form of cash or goods—to their families and friends in Cuba. These transfers sent from migrants to their countries of origin are known as "remittances."

In the case of Cuba, the extensive use of unofficial networks to send remittances, together with a lack of data-collection by the government, makes it extremely complicated to estimate the number of families receiving remittances, as well as the total amount of these inflows. However, a number of studies using surveys (both within the island and abroad) and econometric techniques provide estimations which will be reviewed in following sections. Official estimates provided by José Luis Rodríguez, former Minister of Economy and Planning, put the official estimate of the level of remittances at $1.7 billion, for 2014 (Rodríguez 2016).

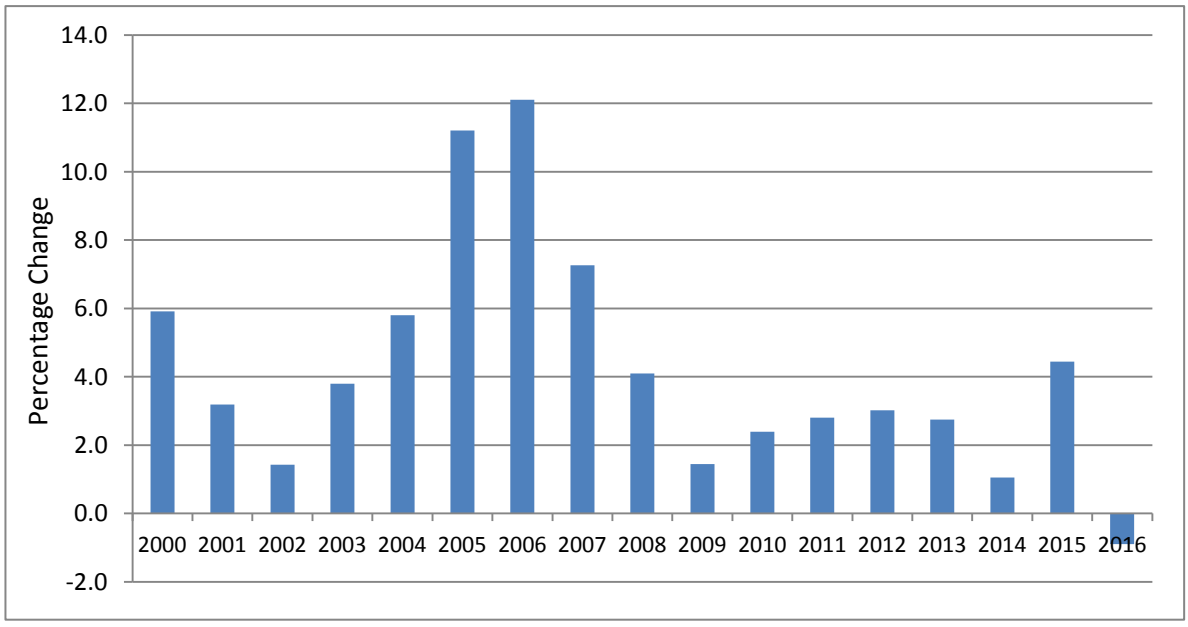
While there is a migration crisis going on in the country, Cuba is also in desperate need of sources of finance to escape the current economic crisis (more on this below) and to keep up with the National Plan for Economic and Social Development through 2030 (see NPESD 2016) and with the economic reforms contained in the Communist Party's Guidelines for Economic and Social Policy (simply Guidelines, hereafter) (GESP 2011; Monreal 2016b). These documents introduced a series of sweeping economic and social reforms to revitalize the economy, including massive lay-offs from the state sector, agricultural reforms, property law reforms, and an expansion of private sector activities.

According to a speech to the National Assembly, by Marino Murillo (Minister of Economy and Planning, at the time) the scarcity of foreign currency creates a liquidity crisis, which is principally the result of the fall in revenues from exports and the sudden, unexpected need to finance imports, like oil, resulting from the economic and political crisis in Venezuela (Murillo 2016). He further noted the urgent need to find *alternative* ways to ease the resulting financial constraints.

2016 Economic Recession

Much like the U.S. and other OECD countries, the Cuban economy has seen anemic growth in the post-Great Recession world. As measured by its GDP growth, Cuba had a period of extraordinarily rapid growth during the middle part of the first decade of the new millennium—with an average 9 percent GDP growth rate from 2004 to 2007. However, as illustrated in Figure 1 below, from 2008 to 2015 the average GDP growth stabilized at 2.7 percent—before finally going turning negative by the end of 2016.

Figure 1. Annual Percentage Growth of Cuban Gross Domestic Product, 2000-2016. (Constant 1997 prices)



Source: Author's elaboration from Cuba's Office of National Statistics and Information data (ONEI various years).

The macroeconomic precursors of the recession include a number of elements. The first cause of the weakening of economic conditions since 2008 can be attributed to a considerable

slowdown of exports (Vidal 2012). Since 2008 the growth of exports fell from 11.6 percent per year to -0.1 percent in 2015, at constant 1997 Cuban Pesos (CUP)[1] (ONEI various years). Additionally, there was an abrupt deterioration in the terms of trade, with declining prices of the main commodity exports relative to imports (Vidal and González-Corzo 2010). Two exogenous factors were of major importance during this period; the spillover effects of the Great Recession and the devastation of large parts of the national territory by major hurricanes—e.g. Gustav, Ike, Paloma, Matthew—with estimated damages worth up to US$14 billion (Vidal and González-Corzo 2010; Peña de la Peña and Espinosa 2016).

Moreover, the Cuban economy experienced an internal financial crisis in 2008, in large part due to scarcity of hard-currency and a convertibility crisis (Vidal and González-Corzo 2010). According to Vidal and González-Corzo (2010) this crisis can be traced back to 2003, when the currency board controlling the emission of the Cuban Convertible (CUC) was dissolved. With no specific rules governing the emission of CUCs, the central bank exceeded the amount of USD reserves backing up the CUC and maintaining their convertibility. The convertibility crisis forced the government to impose capital controls, eventually freezing all foreign currency payments due to the scarcity of foreign exchange reserves (Vidal 2012). All in all, the lack of external financing during this period acted as a *drag* on the economy, with an estimated contribution of negative 1 percent to GDP growth, from 2008 to 2013 (Vidal 2016).

An additional negative influence during this period was the collapse of the Venezuelan economy, triggered by the fall in oil prices and the continuous political turmoil in that country. As one of Cuba's main trading partners, the economic problems in Venezuela have negatively affected GDP growth in the island. The recent economic dependence on Venezuela resembles that of the Soviet era, with commercial relations with Venezuela representing 15 percent of Cuba's GDP (Vidal 2016).

In the context of the elements mentioned above, since Raúl Castro was elected President in 2008 his administration has been characterized by tight controls over fiscal expenditures and the implementation of economic reforms to reduce the role and size of the state in the economy. To illustrate this point, during the period 2008-2015, total government expenditures as a percent

[1] The Cuban Peso is one of two currencies issued by the Cuban government—the other one is the Cuban Convertible (CUC). The exchange rate between the two is 24CUP:1CUC. The CUC can be exchanged for foreign currencies; its value is fixed at 1:1 with the U.S. dollar (USD). We explain further in Chapter 4.

of GDP were reduced by 14.7 percentage points (ONEI various years, chapter 5). Meanwhile, from 2010 —when the Guidelines constituting the backbone of the reforms were finally approved (GSEP 2011)—to 2015, government employment was reduced at a rate of 117,000 jobs a year; removing around 585,600 jobs from the economy in five years (ONEI various years). According to Vidal (2012), the goal is to eventually reduce state employment by 20 percent, or around 1.3 million workers; it is assumed that those workers will be absorbed by the private and cooperative sectors. By 2015, however, the private and cooperative sectors had increased their ranks by 461,000 jobs, around 79 percent of the reduction in government employment (ONEI various years). Thus the austerity policies of the current administration contributed to the weakening of the economy, on top of the macroeconomic elements mentioned above.

To fight the recession and stimulate the economy the government is planning to increase its spending by 11 percent in 2017, according to the Cuban Minister of Finances and Prices (Pedraza 2016). This increase in public spending, however, is not matched by expected revenues. The mismatch is expected to be of around 11.5 billion Cuban pesos (CUP), which Minister Pedraza (2016) estimates will create the largest fiscal deficit since 1993—around 12 percent of GDP. As in recent years, a portion of the fiscal deficit will be covered by the emission of sovereign bonds in the national interbank market and the rest monetized.

External Debt Commitments

As a result of defaulting on its international hard-currency debt payments in 1986 (Domínguez 2004), Cuba faces serious difficulties funding in external finance markets. Until easy credits from the Soviet Union dried up in the early 1990s, for many years that was not a problem. Since then, Cuba has made efforts to renegotiate its outstanding debt and to resume servicing its obligations in order to regain access to international finance. While U.S. restrictions are an important limitation to restoring such access, President Castro has already taken steps to improve the country's creditworthiness; promising to honor the commitments resulting from agreements reached during the renegotiation of Cuban debt with other governments and private sector creditors (Castro 2015).

Paris Club Creditors and Other External Debt

In recent years Cuba has successfully negotiated a number of deals to reduce its debt and have more flexible payment terms with several countries—e.g. China, Japan, Mexico. Worthy of mention is Russia's forgiveness of 90 percent of Cuban debt to the former Soviet Union, leaving Cuba with arrears of only $3.5 billion out of some $35 billion (Tanas and Andrianova 2014).

The Russian agreement paved the way for the deal with Paris Club's Group of Creditors of Cuba, in December 2015. By derogating the accumulated interests, the arrangements with the Group of Creditors brought down the total stock of debt from $11.1 billion to $2.6 billion—the original principal, to be paid over a period of 18 years (Paris Club 2017a). The first installment was paid in October, 2016 for 1.6 percent of the $2.6 billion, amounting to some $41 million. The percentage paid is set to gradually increase to 8.9 percent of the outstanding debt by 2033. Moreover, the deal offers a grace period on interests through 2020, and then a 1.5 percent rate of the outstanding debt.

The deal with the Paris Club has strategic implications that make it the most relevant of the debt negotiations. The group's permanent members are virtually all the most important economies of the world; including the U.S., with which Cuba has long been at odds politically and in matters of economic policy. The Group is also closely connected with international organizations with which Cuba has broken ties—i.e. the World Bank and the International Monetary Fund (IMF)—but which play an important role in the world economy and international finances.

Other external debt

Luis (2016) estimates that Cuba owes around $10.6 billion to creditors other than the Paris Club; among them to member banks of the Bank for International Settlements, suppliers, defaulted bonds and loans, and the London Club. While the latest Cuban national statistics show $11.9 billion of total external debt as of 2013 (ONEI 2015), as shown in Table 1 below.

Table 1. External debt as recorded by the Office of National Statistics and Information, 2010-2013. (CUP millions)

	Total (short and long term)			
	2010	*2011*	*2012*	*2013*
Official Debt	6,671	7,025	7,432	7,267
Bank Debt	2,388	2,530	2,793	2,021
Debt to Suppliers	4,516	4,361	2,307	2,627
Total	13,575	13,916	12,532	11,915

Source: Author's elaboration from Office of National Statistics and Information data (ONEI 2015, chapter 8).

During the early 2000s, the short-term high-interest fraction of the total foreign debt became a heavy weight on state finances and the country accumulated a string of failures of repayment and defaults. The failures to repay included not only debt to other governments but also to a number of international suppliers, export financing agencies, and banks—from countries such as France, Mexico, Japan, and Panama (Mesa-Lago and Pérez-López 2005). These recurrent problems have been referred to as a "pattern of lack of repayment and defaults," as indicated by Mesa-Lago and Pérez-López, that "has greatly reduced Cuba's ability to obtain fresh credits" (2005, 40).

However, the recent negotiations and the restructuring of the outstanding debt show an optimistic willingness of creditor countries and international institutions to open the door for future credits and loans to Cuba. This is evident from the flexibilities offered by the Paris Club negotiators, exempting Cuba from having "a current program supported by an appropriate arrangement with the IMF," which is one of the Paris Club's prior conditions to negotiate restructuring with debtor countries (Paris Club 2017b).

This suggests that Cuba is facing an international environment favorable to improving its external creditworthiness. A number of factors will be of importance such as fulfilling current debt service obligations on a timely manner. Indeed, as stated by the Paris Club, "failure to fulfill debt obligations can *rapidly* damage creditworthiness" [emphasis added] (Paris Club 2017a).

Economists, both national and foreign, offer a wide range of alternatives to the issues discussed above. These include incorporating the country in the international and regional financial institutions—e.g. the World Bank, IMF, Inter-American Development Bank—to leverage their expertise and resources (see Feinberg 2011; Vidal and Brown 2015); accelerating meaningful economic, administrative, and property law reforms to give a more prominent role to the market and the private sector (see Mesa-Lago 2012, 2013; Mesa-Lago and Pérez-López 2013; Castañeda 2013; Triana 2016); promoting new Foreign Direct Investment (FDI) as a pillar for growth (see Hidalgo de los Santos 2016; Torres 2015), specially in the tourism sector (see Rivalta and Rodríguez 2015); and relying on the usual combination of boosting exports while substituting imports (Vidal and Fundora 2008).

The high levels of remittances from Cubans abroad have led some economists (e.g. Luis 2014; Odriozola and Triana 2015; Monreal 2016a) to identify these transfers as a leading contributor of net foreign currency for Cuba and to recognize the potential for active macroeconomic policies to capture and utilize these flows. However, most do not appear to go further than simple recognition. This present work intends to fill such gap in the literature by proposing to leverage remittances as an alternative source of finance for the Cuban economy through one particular financial innovation—remittance securitization. This instrument has been successfully used in a number of developing countries, and could potentially allow Cuba to borrow in capital markets at lower costs and longer terms than its sovereign credit ratings would otherwise allow.

CHAPTER 2: SECURITIZATION OF FUTURE-FLOW RECEIVABLES

The Cuban economy has had recurrent problems to secure external financing ever since the dissolution of the Soviet Union. Moreover, most loans that Cuba receives are short term, high interest rate loans (Pérez 2005). As a consequence, Cuba might have been operating in what Minsky (1992) labeled a speculative position—if not Ponzi—with constant needs to rollover debt and refinance commitments. As the Cuban economy continues to implement economic reforms to bring about the so-called "updating" of the national economy, the feasibility and potential of using novel ways to access global capital markets through innovative financing policies should be evaluated and taken into consideration; for example, to maintain stable (if not growing) investment for development or to secure the foreign exchange needed to keep current with debt service payments to foreign creditors.

One such innovations in international finances, allowing developing countries to access global capital markets on better terms, is the issuance of debt instruments backed by expected hard currency receivables—i.e. securitization of future-flow receivables.

Definition and Background

Securitization can be defined as the process of creation and issuance of marketable financial instruments whose payment of interest and principal, to investors, derive from cash flows generated from an underlying asset or pool of assets. Typically, the financial assets underlying the securities are loans—e.g. mortgages, credit card debt, student and auto loans—but, in general, it can be any asset that generates a regular stream of future payments. The security, then, offers investors a claim on those expected payments.

Securitization has been around for many years now. For example, Goetzmann and Rouwenhorst (2005) trace some forms of what today we call securitization to merchants and bankers in the Netherlands of the 17th and 18th centuries, while White (2009) and Snowden (2010) show how the securitization of residential and commercial mortgages was also used in the pre-Great Depression U.S. of the 1920s. However, the phenomenon securitization has become in today's financial services industry finds its foundations in the mortgage market of the 1970s.

The popularization of securitized instruments followed after the U.S. Congress deregulated the financial system and relaxed Federal Reserve rules that allowed commercial banks to compete with savings and loans institutions for deposits, amid rapidly rising demand for housing finance, left the conventional primary funders of housing—the savings and loans associations—with a funding shortfall, unable to meet the rapidly rising demand for housing finance (Kregel 2008, Kendall and Fishman 1996).

The instrument was popularized by the bond department at Salomon Brothers, headed by a pioneer of modern securitization, Lewis Ranieri—who claims to have coined the term *securitization* (Ranieri 1996, 31). The large profits quickly attracted the rest of the industry and the markets for securitized debt surged to include a wide variety of assets, including those in Table 2 below.

Table 2. Financial Assets Securitized Since the late 1970s.

• Fixed- and Adjustable-rate mortgages	• Equipment leases
• Second mortgages	• Export receivables
• Home equity revolving lines of credit	• Diversified payment rights
• Auto loans	• Remittances
• Credit card receivables	• Third world debt
• Tax revenue receivables	• Junk bonds

Source: Author's elaboration (Kendall and Fishman 1996; Ketkar and Ratha 2009)

Following the definition offered at the beginning of this section, we can divide securitized transactions in three general categories. First, those commonly known as "asset-backed securities" (ABS), which refers to financial instruments providing investors the rights to collect interests and principal payments generated by a pool of loans other than mortgage loans. Securities backed by packing mortgage loans (residential and commercial), although technically an ABS, are usually called "mortgage-backed securities" (MBS), which are categorized as a second group. And a third group called "future-flow (backed) securities" (FFS), which refers to those instruments allowing investors a claim over the revenues expected to be generated from the originator's normal course of operations.

Future-Flow Securitization

Financial institutions in developing countries have found convenient the securitization of a wide variety of future-flow receivables. Since the first securitization transaction of this type, Mexico's Telmex securitization of telephone receivables in 1987, credit rating agencies have rated over 400 transactions amounting to more than $80 billion (Ketkar and Ratha 2009). Securities have found market placement backed-up by hard currency resulting from exports of natural resources, minerals, and agricultural products; inflows of electronic and paper remittances; diversified payment rights (DPR) flowing through the SWIFT[2] system; and even tax revenues (Ketkar and Ratha 2009).

Debt issuers from developing countries have found securitized instruments backed by hard-currency receivables to be effective in breaking with the sovereign credit rating associated with the host country. According to Ketkar and Ratha, the structure of a FFS mitigates the risk of exposure to a developing country by "ensuring that the payments on the receivables do not enter the issuer's home country before the obligations to bond investors are met" (2009, 8). FFS structures, then, allow debt issuers to borrow on better terms than what creditors would be willing to offer under the sovereign rating of the developing country.

The Basic Structure of a Future-Flow Securitization

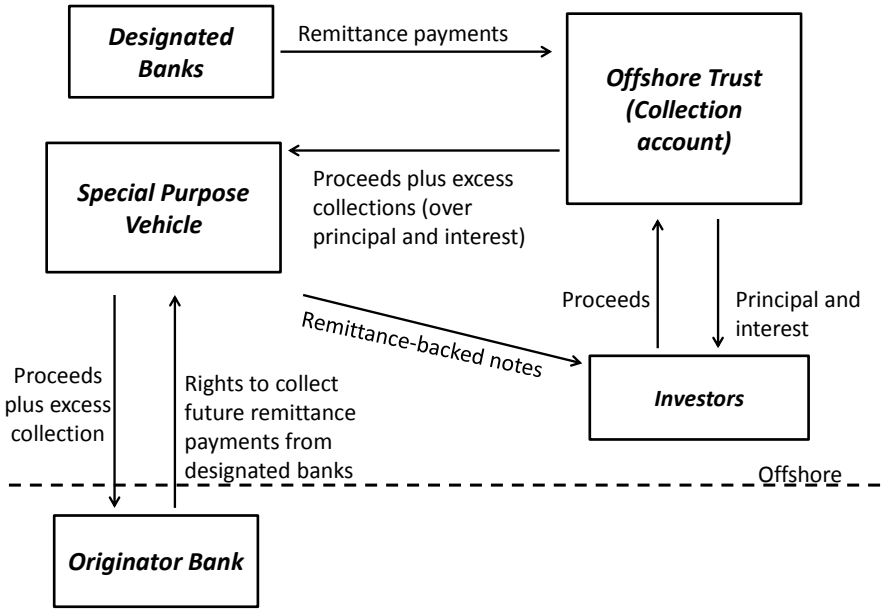
In order to ensure that the future payments on receivables do not enter the issuer's home country, an offshore Special Purpose Vehicle (SPV) is used as a conduit to issue the future-flow backed notes that will yield principal and interest to investors. An SPV is a legal entity created with a very specific mission, or for a narrowly limited set of activities or transactions. As Gorton and Souleles explain, "SPVs have no purpose other than the transaction(s) for which they were created, and they can make no substantive decisions; the rules governing them are set down in advance and carefully circumscribe their activities" (Gorton and Souleles 2009, 550).

As illustrated in Figure 2 below, typical future-flow transaction in developing countries involves a borrowing entity (or originator) giving up the rights to collect its future receivables in favor of the offshore SPV in exchange for a discounted lump sum 'today'. The SPV then

[2] The Society for Worldwide Interbank Financial Telecommunication (SWIFT) system is a global cooperative providing secure financial messaging services.

directs designated international customers (or obligors) to send payment for the originator's receivables directly to an offshore collection account ran by a trustee. The trustee collects the receivables and allocates principal and interest payments to the investors. Any excess collections after scheduled payments have been satisfied, are then redirected to the originator.

Figure 2. Structure of a Typical Future Remittance Flows Securitization.



Source: Author's elaboration based on Ketkar and Ratha (2009).

The Hierarchy of Collaterals:

The structure depicted above maintains the hard currency receivables out of the jurisdiction of the government of the developing country, until bondholders have received principal and interest payments. This is a key component of the FFS in these countries, because it means that once the structure is set in place, capital and exchange controls imposed by sovereign authorities upon currencies in which a debt is denominated—i.e. transfer and convertibility risks—would not interfere with timely service of the debt (Fitch 2014). As Fitch Ratings grading criteria states, "because note holders have access to payments on the receivables before they return to the country in which the issuer is located, Fitch believes they will not be directly subject to convertibility and transfer risks" (2015, 2).

Credit rating agencies' judgment that transfer and convertibility risks are mitigated, allows originators to break with their sovereign credit ceiling, benefiting from obtaining financing at better terms—i.e. for longer periods and at lower interest rates than they would have received under unsecured debt—and even potentially accessing new investors limited to purchasing investment-grade debt (S&P 2004).

While the structure of the securitized transaction reduces the transfer and convertibility risks associated with lending to a developing country, these transactions are still vulnerable to performance, price, and volume volatility. As its name indicate these risks arise from the originator's ability to continuously generate the future receipts, from the fluctuations in the price of the good or service generating the future receipts, and from the volumes traded, respectively. These risks are typically mitigated by excess coverage or overcollateralization (Ketkar and Ratha 2009)—i.e. by issuing only a portion of expected remittance flows so that if receipts fell short of expectations the transaction is not jeopardized.

However, the choice of the future receivable used as collateral also plays a major role in alleviating performance and volume volatility risks. Based on the performance of past securitizations, credit rating agencies have ranked the collaterals that best escape the risk mentioned above, as indicated in Table 3 below. The securitization of future heavy crude oil receivables is considered to be the least risky, while that of tax receipts is at the other end of the spectrum.

Table 3. Hierarchy in Future-Flow-Backed Transactions.

1. Heavy crude oil receivables
2. Diversified payment rights, airline ticket receivables, telephone receivables, credit card receivables, and electronic remittances
3. Oil and gas royalties and export receivables
4. Paper remittances
5. Tax revenue receivables

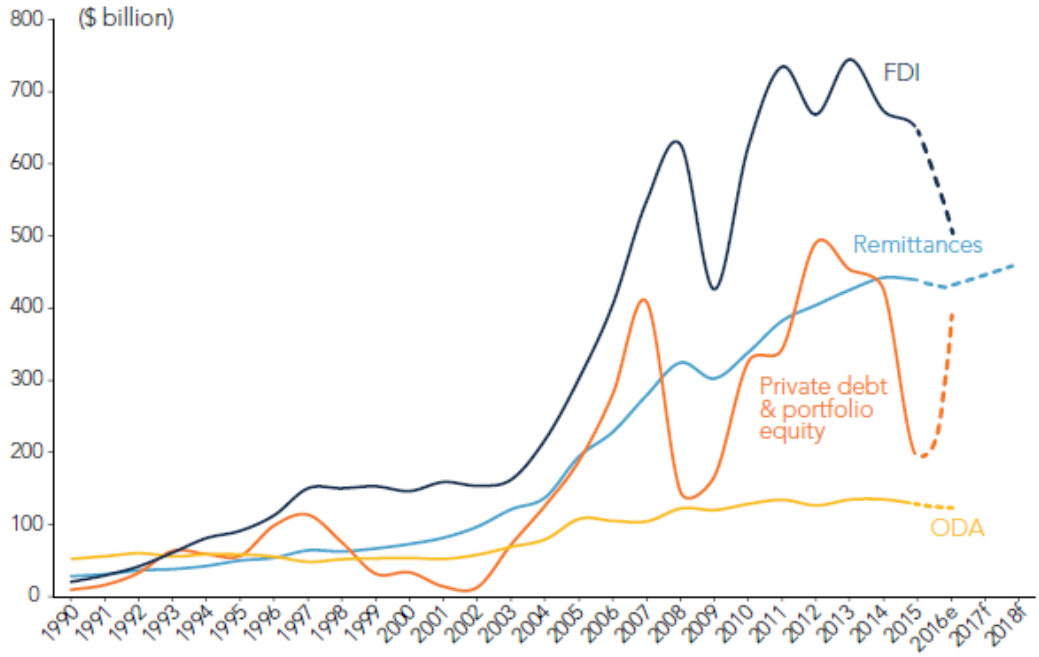
Source: Ketkar and Ratha (2009, 29: Table 2.1).

Overall, the securitization of future-flow receivables in developing countries has a positive track record and it has proven to be successful to both originators and investors (Ketkar and Ratha 2009). Originators have benefited from lower costs of funds than what can be obtained with the quality of rating of the originator, longer term funding, improved credit risk management, and access to a broader investors base. While investors have been able to benefit from more diversified portfolios and attractive investment opportunities with potential high returns (Buchanan 2017). Indeed, as Ketkar and Ratha notice, "the attractiveness of future-flow securities lies in … their stellar performance in good as well as bad times" (2009, 29).

Future Remittances as Collateral for Securitization

Individual remittances are usually not large sums of money, but when added together these inflows amount to more than international aid and are more consistent than private capital flows, as illustrated in Figure 3 below.

Figure 3. Remittance Flows Are Larger than Official Development Assistance (ODA), and More Stable than Private Capital Flows, 1990-2018.



Source: World Bank (2017, 2: Figure 1.1).

In Latin America in particular, where investors have long feared sovereign and political risk, the securitization of remittances have become a useful, promising tool in reducing risk (Buchanan 2017). In the region, remittances flows have been on the rise over the last five

years—to a record-high $68.3 billion, in 2015—and are thought to have increased by 6.9 percent over the course of 2016, as shown in Table 4 below.

Table 4. World Bank's Estimates and Forecast for Remittance Flows to Developing Country Regions, 2013-2018. (US$ billions)

Region	*2013*	*2014*	*2015*	*2016*	*2017f*	*2018f*
Developing Countries	426.4	444.3	439.8	429.3	443.6	459.1
East Asia and Pacific	114.3	122.7	127.3	125.8	129.0	132.7
Europe and Central Asia	54.6	51.7	40.3	38.4	41.0	43.6
Latin America and Caribbean	61.5	64.5	68.3	73.1	75.5	78.2
Middle-East and North Africa	50.5	54.4	51.1	48.8	51.8	53.5
South Asia	110.8	115.8	117.6	110.1	112.3	115.3
Sub-Saharan Africa	34.7	35.3	35.1	33.0	34.1	35.7
World	574.8	598.3	582.4	575.2	593.8	615.9
Low and Middle-Income Countries	419.0	435.9	432.3	422.5	436.3	451.1
	Growth rate (percent)					
Developing Countries	5.2	4.2	-1.0	-2.4	3.3	3.5
East Asia and Pacific	6.7	7.4	3.8	-1.2	2.5	2.9
Europe and Central Asia	17.1	-5.3	-22.1	-4.6	6.6	6.4
Latin America and Caribbean	2.1	4.8	6.0	6.9	3.3	3.6
Middle-East and North Africa	3.4	7.8	-6.1	-4.4	6.1	3.3
South Asia	2.6	4.5	1.6	-6.4	2.0	2.7
Sub-Saharan Africa	1.0	1.7	-0.4	-6.1	3.3	4.9
World	5.3	4.1	-2.7	-1.2	3.2	3.7

Source: World Bank (2017, 2: Table 1.1).

These figures underestimate the actual magnitudes of remittances flows because workers often use unofficial channels and informal networks to send money back to their countries of origin, which hinders the tracking of these flows. While only a few countries try to collect data to measure the inflow of remittances through unofficial channels, the World Bank (2005) suggests that if unofficial remittances were captured in the statistics, the total amount of recorded flows could increase by at least 50 percent.

Additionally, remittance flows are also shown to be very stable and even countercyclical to the economic situation in the receiving economy (Terry and Wilson 2005; Fajnzylber and López

2008). While their altruistic character makes these flows responsive to unexpected factors that affect the well-being of recipients; e.g. increasing the flows in times of national emergencies and after natural disasters (Ketkar and Ratha 2009, 42-43).

Thus, it is not a surprise—given their stability, strength, and certainty—that one form of securitization found to be increasingly reliable is the securitization of remittance flows. As Hughes (2011, 104) reports, "rating agencies and practitioners note that remittance-backed bonds tend to perform well."

Table 5 below offers an overview of the top ten Latin American and Caribbean remittance-receiving countries for which the World Bank remittance database has data; some of which have carried out successful remittance securitization transactions, as exemplified in the following section.

Table 5. Top 10 Remittance-receiving countries in Latin America and Caribbean. (US$ billions)

Country	*2015*	*2016e*	*Remittances as a share of GDP in 2015 (percent)*
1. Mexico	26.2	28.5	2.3
2. Guatemala	6.6	7.4	10.3
3. Dominican Republic	5.2	5.5	7.7
4. Colombia	4.7	4.9	1.6
5. El Salvador	4.3	4.6	16.6
6. Honduras	3.7	3.8	18.2
7. Brazil	2.9	2.7	0.2
8. Peru	2.7	2.9	1.4
9. Ecuador	2.4	2.7	2.4
10. Jamaica	2.4	2.4	16.9

Source: Author's elaboration from World Bank data (see "Migration and Remittances" 2017).

Accessing External Financing through Remittance Securitization

As argued above, because the structure of the securitization maintains the hard-currency receivables outside the developing country, it mitigates the transfer, convertibility risks and potentially allows for credit ratings above the sovereign's. Box 2 below shows an example of a successful remittance securitization transaction by Banco do Brasil. Indeed, through the

securitization of future remittances Banco do Brasil was able to improve its creditworthiness and obtain financing with a better credit rating than otherwise international capital markets would have allowed (Ketkar and Ratha 2009). Moreover, World Bank economist Dilip Ratha argues that because the securitization creates a financial relation between the borrowing country and international creditors, it establishes a credit history that "enhance the ability and reduce the costs of accessing capital markets in the future" (2005, 3).

Institutions in other developing countries have also been able to borrow at lower spreads using remittances as collateral. The popularity of this tool grew rapidly since the first major securitization of this type was done in Mexico in 1994. For example, Mexico, Turkey, and El Salvador alone borrowed around $2.3 billion, from 1994 to 2000, using this instrument (Ratha 2005). Similar to Banco do Brasil's example, when El Salvador's Banco Cuscatlán borrowed $50 million in 1998 the transaction was rated above the sovereign rating—BBB and BB, respectively (Ratha 2005).

Table 6. Remittance-Backed Future-Flow Transactions are Rated Higher than the Sovereign.

Year	*Issuer*	*US$ million*	*Flow*	*Transaction rating*	*Sovereign rating*
1998	Banco Cuscatlán	50	Remittances	BBB	BB
2002	Banco do Brasil	250	Remittances	BBB+	BB-
2004	Banco Salvadoreño	25	DPR (including remittances)	BBB	BB+

Source: Ratha (2005, 3: Table 2).

Box 1. Banco do Brasil's (BdB) Nikkei Remittance Trust Securitization

Amount: US$250 million. Collateral: U.S. dollar or Japanese yen–denominated worker remittances. Transaction rating BBB+ versus BdB's and Brazil's local currency rating of BB+/Stable and foreign currency rating of BB-/Stable.

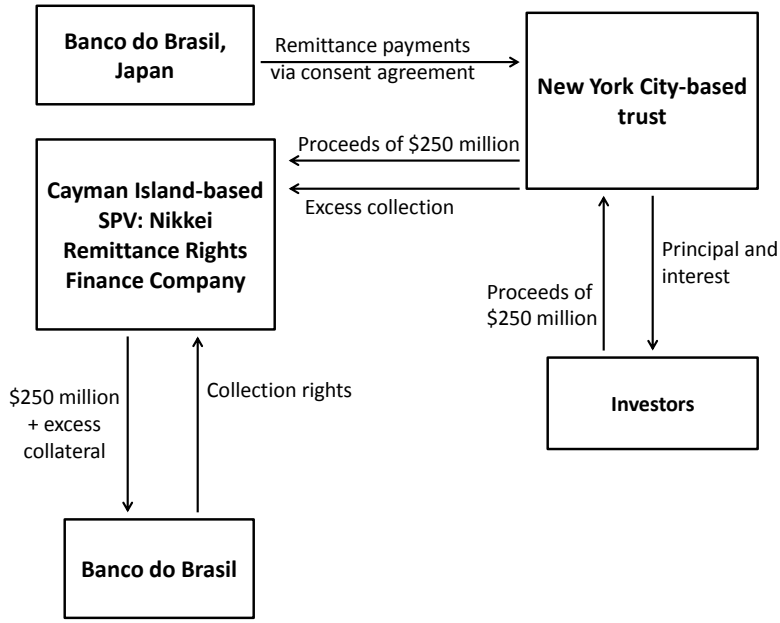
This deal involved Banco do Brasil selling its future remittance receivables from Brazilian workers in Japan directly or indirectly to a Cayman Island–based offshore SPV named Nikkei Remittance Rights Finance Company. A New York City–based SPV issued and sold the debt instrument to investors, receiving US$250 million. BdB Japan was directed to transfer remittances directly to the collection account managed by the New York–based trust. The collection agent was to make principal and interest payments to the investors. Excess collections were to be directed to the originator BdB via the SPV.

Since remittances did not enter Brazil, the rating agencies believed that the structure mitigated the usual sovereign transfer and convertibility risks. The structure also mitigated the bankruptcy risk because the SPV had no other creditors and hence could not go bankrupt. Of course, the risk of BdB going bankrupt existed, but such risk was minimal given the government-owned BdB's dominant position in Brazil. Furthermore, legal opinion held that creditors would continue to have access to the pledged security (that is, remittances) even if BdB were to file a bankruptcy petition.

However, a number of residual risks remained, and they were difficult to structure away. These included the performance risk—the ability and willingness of BdB to garner remittances and deliver them to the collection account managed by the New York–based trustee; the product risk—the ability and willingness of Japan to generate remittances; and the diversion risk—the possibility of BdB selling the remittance rights to another party. The performance risk is generally captured in the issuer's local currency rating. For entities such as banks, Fitch Ratings uses the going concern and Standard & Poor's uses the survival assessment of the originating entity in rating an asset-backed transaction higher than the issuer's local currency rating. This was the case for the BdB's Nikkei Remittance Trust transaction, which was rated BBB+ by Standard & Poor's, whereas BdB had a BB+ local rating. In reaching this decision, Standard & Poor's took into account (1) BdB's position as the largest financial institution in Brazil (with a 2,900-strong branch network), which makes it the most natural conduit for funds transfers, (2) the long-established presence of BdB in Japan since 1972, and (3) the importance of worker remittances in generating foreign exchange for the Brazilian government.

(Box continues in the following page)

Structure of Bdb Remittance Securitization



Source: Standard & Poor's 2002 (as cited in Ketkar and Ratha 2009).

The product risk from volatility and seasonal fluctuations in remittances was mitigated via overcollateralization or excess coverage, with a debt service coverage ratio of 7.64x. Another element of the product risk was partially mitigated by recognizing Japan's need for workers to supplement the native workforce, and the availability of Brazilians of Japanese descent to fill this demand. Standard & Poor's, however, recognized as constraints on the rating the possibilities of Japan obtaining workers from countries other than Brazil, and of BdB selling remittance rights to another party. It expressly identified the latter as an event of default, triggering early amortization.

Some elements of the sovereign risk also cannot be totally eliminated. For example, Banco Central do Brasil can compel BdB to pay remittances directly to the central bank instead of the trust. A degree of protection against this risk is provided by the fact that BdB is majority owned by the government of Brazil. In other instances, remittance securitized transactions have made designated correspondent banks sign a Notice and Acknowledgement, binding under U.S. law (or the law of a highly rated country), that they will make payments to the offshore trust. That would make the sovereign reluctant to take the drastic step of requiring payments into the central bank. Currency devaluation is yet another element of sovereign risk that cannot be totally eliminated, even in structured transactions. For instance, currency devaluation may affect the size and timing of remittances, particularly through formal channels.

Source: Ketkar and Ratha (2009, 40-42: Box 2.2).

CHAPTER 3: REMITTANCES IN THE CUBAN ECONOMY

For many years the Cuban government enjoyed economic benefits from its political allegiance with the Soviet Union and other former communist countries. During those years Cuba enjoyed a windfall of investment programs and development projects, based on credits at preferential terms and development aid (Pérez Villanueva 2001).

This beneficial juncture ended in 1991 with the dissolution of the Soviet Union, and with it the easy access to credits, external markets, and other sources of financing. The disappearance of the Soviet Union and the termination of the Council for Mutual Economic Assistance had severe consequences for the Cuban economy; starting with the loss of price subsidies and soft loans estimated to have amounted to some $65 billion in the period 1960-1990 (Mesa-Lago and Pérez-López 2005).

Moreover, because Soviet countries were Cuba's main trading partners, foreign trade collapsed by 75 percent; and the foreign demand for exports of nickel, cigars, and citrus and the imports of consumer, intermediate, and capital goods all virtually disappeared (Mesa-Lago and Pérez-López 2005)—as well as the subsidized barter of oil for sugar at below world market prices. All in all the Cuban economy lost 35 percent of its GDP in the first four years of 1990s decade (Hernández Roque and Ramos Hernández 2012). As a consequence, the Cuban government was forced to rethink the conditions and strategies for development and to reinvent its way of insertion in the world economy.

In the aftermath of the disappearance of the communist bloc and the subsequent collapse of the Cuban economy remittances became of vital economic importance for Cuba. In the early years of the so-called "special period"[3] a number of policy measures opened the doors to the receipt and use of U.S. dollars. Immediately after, remittance inflows surged and remittances became one of the main sources of income for Cubans and of hard currency for the country. Box 1 below offers an overview of the set of economic and social adjustment policies implemented

[3] A period of deep economic depression begging in the early 1990s with the one-third contraction of GDP and with no specific period-end date.

through the 1990s. While the following sections review some of the policies put in place by the Cuban government to capture remittances.

Box 2. Economic and Social Transformations in Cuba in the 1990s

- Decriminalization of the holding of foreign currency
- Opening to foreign investment
- Geographical reorientation and decentralization of foreign trade
- Extension of self-employment
- Expansion of cooperatives in farming
- Resizing and restructuring of state enterprises
- Institutional and regulatory reorganization of central state administrative agencies
- Economic and financial reform
- New salary scales for the labor force
- Opening of farmer's market
- Opening of markets for small-scale industrial and craft goods
- Decentralization of decision-making and greater autonomy at the territorial level for policy implementation
- New social programs launched

Source: Togores and García (2004, 248: Box 8.1).

These measures, while transformative of some institutions and structures in the economy, did not substantially change the economic and, more importantly, the political model. Instead they offered a gradual update of a system that remained essentially managed by central planning and with state ownership over virtually all means of production. As it would be the case almost twenty years later, the 1990s process of reforms was neither a complete overhaul of the system nor a return to capitalism, but merely a modernization of its management.

Cuban Policies on Remittances

As mentioned above, up until the 1990s remittances had a very limited impact in the Cuban economy. In fact, before the 1990s the official government policy was to discourage any sort of collaboration and communication between Cubans in the island and Cubans abroad—including the transfer of remittances. It wasn't until the government had to deal with the economic collapse that followed the disappearance of the Soviet Union that they started looking for new sources of foreign currency—which they found mainly in the tourism sector and remittances. At that point, as Fidel Castro explained in an interview, the government decided that it was necessary not only to "legitimize, but to ensure that [the Cuban government] captures a

percentage … of these dollars, so … they can be used to benefit the population as a whole" (as quoted in Barberia 2004, 366).

The official policies on remittances, during the 1990s, can be seen in three waves of reforms to direct the inflows into the official economy. The first set of policies included the de-criminalization of foreign currency possession and allowing Cuban nationals to open bank accounts in foreign currency. Soon after there was a partial dollarization of the economy, during which the USD became unit of account and means of payments in the economy—meaning that Cuban citizens could use American dollars for their purchases even in state-owned stores. And later the Central Bank introduced a new currency called the Cuban Convertible (CUC), which exchanges at par with the USD—except cash exchanges, which carry a 10 percent surcharge—and eventually replaced the need for dollars in commercial transactions. It would also make sure that most dollars were retired from circulation, surrendered to the government in exchange for CUCs.

The banking system also underwent several transformations, developing the infrastructure to improve and expand banking services and to guarantee more rapid, transparent transaction in foreign currency. This included the creation of new banks, installation of ATMs, authorizing of the use of postal service to send remittances, and the use of some credit and debit cards in the island.

Official Remittance Transfer Channels

The package of reforms during the 1990s included a number of measures to improve Cuba's financial infrastructure, to open more the economy to rest of the world, and to promote the use of official remittance channels. As a result Cuba now presents a number of choices to remit money through banks and non-bank financial institutions. Barberia (2004, 379-386) offers a thorough description of six channels comprising the official remittance transfer system operating in Cuba, which we summarize below.

1. There are a number of international banks—from European, North American, and Latin American countries—that regularly wire funds in partnership with the Cuban banking system. The banks emitting the transfer normally charge a fee, while the Cuban counterpart charges a commission on the transaction. For example, Cuba's *Banco*

Popular de Ahorro advertises this type of arrangements with over a dozen correspondent banks, through which remittances can be sent from all over the world in foreign currencies like Euro, Canadian Dollar, and Pound sterling (BPA 2017). Some of these banks are listed in Appendix B.

2. Money transmitters or remittance forwarding agencies also operate to send money directly to Cuba—e.g. Western Union. These services are widely used in the U.S.-Cuba remittance corridor because the financial sanctions imposed on the island by the Embargo limit American banks participation (more on this below). As far back as 2008, González-Corzo and Larson (2008) had already identified at least 88 authorized remittance forwarding agencies in the U.S. Since around two-thirds of remittance recipients in Cuba receive their money from the U.S. (Hansing and Orozco 2014), these money transmitters and forwarding agencies encompass the majority of official remittances.
3. Remittances can also be sent directly to a debit card of a Cuban recipient, a service operated in partnership with a foreign corporation. This option was first established in coordination with a Canadian corporation, through which remitters could send money from any country in the world—including the U.S.—to a Canadian bank account that then transmitted the funds to the Cuban recipient's debit card. This service was later extended to allow electronic transfers from various European countries.
4. Couriers services—e.g. DHL—also carry remittances to the island; although this option carries the least competitive prices.
5. Family members living abroad can pay the outstanding balances on credit cards that can be used by their relatives in the island. To this end, even major credit card companies have found ways around the Embargo; including Visa and MasterCard.
6. Remittances can be sent electronically in the form of postal money orders from a number of Latin American and European countries that have entered agreements with the Cuban postal service (*Correos de Cuba*).

While these official channels are commonly used by remitters, a share of around half of total remittances remains transferred through non-official channels (Orozco 2009; Hansing and Orozco 2014).

U.S. Controls and Limitations on Remittance Flows

From a sending-country perspective, remittance outflows are sometimes thought to have a negative impact on economic activity because they represent a leak of resources that could be used for domestic consumption and investment (Alkhathlan 2013; Baas and Melzer 2012[4]). However, remitter countries rarely impose direct restrictions over these outflows (Barberia 2004); the particular case of the U.S.-Cuba remittances corridor being one of those exemptions.

The U.S. trade embargo against Cuba has imposed tight restrictions on the transfer of remittances since the early 1960s. By restricting the access to foreign currency, it was thought, the new Revolutionary government would not be able to command the resources to realize the promise of a prosperous Communist economy and society. The U.S. strategy was to suffocate the Cuban Revolution financially; creating enough economic hardship that discontent among the people would bring about the collapse of a potential Communist regime only ninety miles from U.S. soil.

To that end, in 1963 the Treasury Department's Office of Foreign Assets Control (OFAC) issued the Cuban Assets Control Regulations (CACR) reinforcing a sanctions-based policy towards Cuba. This policy outlawed any transfer of property, including cash. As Barberia sums it,

> CACR regulations prohibited U.S. citizens, residents, and corporations from engaging in "(1) all transfers of credit and all payments…; (2) all transactions in foreign exchange by any person within the United States; and, (3) the exportation or withdrawal from the United States of gold or silver coin or bullion, currency or securities by any person within the United States" with Cuba and its nationals. (2004, 389)

These prohibitions were relaxed during the Carter Administration, allowing sending remittances legally through a number of authorized remittance forwarders and banks. The thaw, however, required that remittance transfers to be either "hand-carried" or sent to a third country, from where the Cuban institutions could then access the funds (Barberia 2004, 390).

[4] Although Baas and Melzer (2012) present the argument that remittance outflows could harm the domestic economy, their results contradict such hypothesis.

The timid rapprochement of bilateral relations under President Carter was reversed during the following two republican administrations and the Clinton presidency; tightening the sanctions-based approach and eventually ban remittances altogether. Three important elements combined during this period change the course set out by Carter. One is that, as Barberia put it, "as the economic impact of the collapse of trade and aid with the Soviet Union hit Cuba, U.S. policy sought to reinforce these impacts by furthering economic sanctions to speed Castro's demise" (2005, 392). While the other two were the *balseros*[5] crisis of August 1994 and the 1996 shootdown, by Cuban the Air Force, of two civilian aircrafts operated by Miami-based anti-Castro organization Brothers to the Rescue.

These two incidents elevated diplomatic tensions between the two countries to close to its Missile Crisis high and U.S. legislators' response included a four-year ban on remittances to Cuba (Barberia 2005). However, by the end of the decade there was another policy shift toward loosening restrictions on remittances transfers. Overall, and on top of controls and regulations, remittance forwarding services from the U.S. had increased from 31 in 1992 to 126 by the end of George W. Bush's first term (Barberia 2005). Nevertheless, President Bush, in good rapport with Cuban-American hardliners, imposed new sanctions restricting remittances to be sent only to remitter's immediate family members (Sullivan 2012).

American policy toward Cuba had a major shift under President Obama's administration. By the time his second term was over, President Obama had implemented a number of measures that effectively loosened the U.S. embargo and promoted a policy of engagement with Cuba. The regulatory changes included OFAC increasing the amount of money that could be sent by any U.S. person to a nonfamily Cuban national; lifting all restrictions on family remittances; and allowing larger amounts to be carried by authorized travelers (Sullivan 2017). Box 2 below offers an overview of the current U.S. policy on remittances to Cuba.

At this point we can only speculate about President Trump's policy toward Cuba and on his Administration's stand on restrictions on remittances. However, during the electoral campaign President Trump expressed that he would reverse President Obama's policy of engagement, unless Cuba is willing to "make a better deal" (Trump 2016). At the time of this writing the

[5] *Balseros* (rafters) is the name given to Cubans that leave the island illegally on rafts, trying to reach the U.S. coasts. During the summer of 1994 thousands of Cubans took to the sea in rafts on a massive exodus to escape the economic depression in the country.

Administration maintains that it is in "the midst of a full review of all U.S. policies towards Cuba" (Spicer 2017).

Box 3. Current U.S. Policy on Remittances to Cuba

U.S. restrictions on remittances to Cuba have been regulated by the CACR [Cuban Assets Control Regulations] and, just like restrictions on travel, have changed over time. Since 2009, the Obama Administration has significantly eased restrictions on remittances. In 2009, the President lifted all restrictions on family remittances. In 2011, the Administration restored a general license category for so-called nonfamily remittances (for up to $500 per quarter) and created a general license for remittances to religious institutions in Cuba in support of religious activities.

In January 2015, as part of the President's policy shift on Cuba, OFAC [Office of Foreign Assets Control] increased the amount allowed for nonfamily remittances (referred to as periodic remittances to Cuban nationals) to $2,000 per quarter; increased the amount of remittances that authorized travelers were permitted to carry to Cuba to $10,000, up from the previous limit of $3,000; and created a general license for certain remittances for humanitarian projects, support for the Cuban people, and support for the development of private businesses. In September 2015, OFAC removed the cap altogether on nonfamily remittances, referring to them in the amended regulations as "donative remittances to Cuban nationals." OFAC also removed the cap on the amount that licensed travelers may carry to Cuba.

Among the CACR's current provisions on remittances are the following:

- **Family Remittances.** Persons subject to the jurisdiction of the United States who are 18 years of age or older are authorized to send remittances to close relatives in Cuba (31 C.F.R. 515.570(a)). There is no limit on the amount or frequency of the remittances. As with the travel-related transactions, a close relative is defined as any individual related to the remitter by blood, marriage, or adoption who is no more than three generations removed from the remitter or from a common ancestor with the remitter (31 C.F.R. 515.339). The recipient of the remittances cannot be a prohibited official of the Cuban government (defined in 31 C.F.R. 515.337) or a prohibited member of the Cuban Communist Party (defined in 31 C.F.R. 515.338).

(Box continues in the following page)

- **Donative Remittances to Cuban Nationals.** Persons subject to the jurisdiction of the United States are authorized to send periodic remittances (31 C.F.R. 515.570(b)), and there is no limit on the amount or frequency of the remittances. The recipient of the remittances cannot be a prohibited official of the Cuban government (defined in 31 C.F.R. 515.337) or a prohibited member of the Cuban Communist Party (defined in 31 C.F.R. 515.338).

- **Remittances to Religious Organizations.** Persons subject to the jurisdiction of the United States are authorized to send remittances to religious organizations in Cuba in support of religious activities (31 C.F.R. 515.570(c)).

- **Remittances to U.S. Students in Cuba.** Remittances are authorized to send to close relatives in Cuba who are students involved in licensed educational activities (31 C.F.R. 515.570(d)).

- **Emigration-Related Remittances.** Two one-time $1,000 emigration-related remittances are authorized (31 C.F.R. 515.570(e)).

- **Remittances to Certain Individuals and Independent Nongovernmental Organizations in Cuba.** Persons subject to U.S. jurisdiction may send remittances to individuals and independent nongovernmental entities in Cuba, including pro-democracy groups and civil society groups, and to members of such organizations in order to support humanitarian projects designed to directly benefit the Cuban people; activities of recognized human rights organizations, independent organizations designed to promote a rapid, peaceful transition to democracy, and individuals and NGOs that promote independent activity intended to strengthen civil society in Cuba; and the development of private businesses, including small farms (31 C.F.R. 515.570(g)(1)).

- **Carrying of Remittances to Cuba.** Authorized travelers to Cuba may carry authorized remittances to Cuba (31 C.F.R. 515.560(c)(4)(i)), and no limit is indicated. Emigration-related remittances may not be carried to Cuba unless a U.S. immigration visa has been issued for the recipient and the licensed traveler can produce certain information regarding the recipient.

Source: Excerpt from Sullivan (2017, 14-15).

Remittances and Inequality in the Cuban Economy

As mentioned above, a number of economic, financial, and social reforms were introduced during the 1990s to fight the depression triggered by the disappearance of the Soviet Union and to revitalize the economic system. These reforms, aiming to stimulate the economy, generated

what Cuban sociologist Mayra Espina (2008) calls a process of "social re-stratification," which jeopardized decades of advances in matters of social equity. Indeed, even though the Cuban government does not publish statistics on income distribution, Cuban scholars have estimated a Gini coefficient increase of 19 Gini points; going from 0.22 to 0.41 from 1986 to 1999—worsening by 86 percent (Mesa-Lago and Pérez-López 2005; Monreal 2017).

Moreover, since the disappearance of the Soviet bloc to the end of the 1990s, the average real wage for Cubans in the state sector dramatically declined—estimates of the decline vary from 39 (ECLAC 2000, as cited in Mesa-Lago 2001) to 44 percent (Togores 1999). Not only were real wages falling for workers in the state sector, they were also deteriorating vis-à-vis workers in the private sector and informal economy. Indeed, as Mesa-Lago and Pérez-López put it (citing Carranza, Gutierrez, and Monreal 1995), in 1994 "the lowest-income worker in the informal sector earned in *one day* the equivalent of the average *monthly* wage of a state worker" [emphases added] (2005, 73).

The social re-stratification process as well as the rising income gaps and distinctions between have and have-nots are to a great extent a reflection of access to remittances (Espina 2003, 2008; Mesa-Lago and Pérez-López 2005; and Monreal 2017). In fact, 63 percent of the families in the highest income bracket are remittance-receivers, while these transfers extend to only 5 percent of those in the lowest end of the income distribution (Iñiguez, Ravenet, and Pérez Villanueva 2001, as cited in Espina 2003).

Starting in 2011—when the so-called Guidelines (GSEP 2011) were put forward—it has been a major policy shift to allow the private sector to play a more relevant role in the economy. However, while in theory almost anyone can now start their own small business, the reality is that access to remittances is one of few sources of financing for the new start ups. Small private businesses currently find remittances functioning as a substitute for credits and loans in the absence of a developed financial sector (Hansing and Orozco 2014)—a similar role that remittances play in other financially-underdeveloped countries with liquidity constraints (Giuliano and Ruiz-Arranz 2005). In the words of Alejandro de la Fuente, director of the Afro-Latin American Research Institute at Harvard University, "now the remittances are being used to fund or establish private companies, that is, not just to fund consumption, as in the past" (as quoted in Archibold 2015). Then, whether (or not) a person receives remittances can be a major

determinant of the access to opportunities for wealth accumulation, leaving behind the share of the population that does not receive this kind of transfers.

Cuban emigration historically has been predominantly white, to such degree that this racial group is over twice more likely than blacks and mulattos to be remittance-receivers (Blue 2004, 2007). Indeed, Mesa-Lago and Pérez-López argue that "an estimated 84 [percent] of Cuban émigrés residing abroad are white, while at least 34 [percent] of the island's residents are black. Because of this imbalance, blacks receive an estimated one-third of the level of remittances received by whites" (2005, 98). This disproportion leaves nonwhite Cubans in clear disadvantage vis-à-vis white families, in terms of income, wealth accumulation, and opportunities for upward mobility.

The groups that have been left behind by since the 1990s—i.e. state sector workers and non-remittance receivers—find it almost impossible to insert themselves in the emerging private sector economy and to take advantage of the opportunities that the new market-oriented reforms offer. This has the potential to become an intergenerational inequality problem in the Cuban society.

Remittances to Cuba: A Survey of Estimates

The official Cuban balance of payments statistics do not offer a breakdown of the components of current transfers nor do they publish a series of remittance estimates. The lack of available data together with the extensive use of informal channels to deliver remittances to Cuba makes it extremely hard to precisely estimate the amounts sent (Mesa-Lago and Pérez-López 2005). However, while there is a big cloud of uncertainty around the actual amount of remittance flowing to Cuba every year, there are a number of estimates that offer a good idea. In this section we review recent estimates in order to derive an order of magnitude for estimating the funds that could be raised through remittance securitization, in following chapters.

Mesa-Lago and Pérez-López (2005) offer comprehensive review of remittance estimates for the late 1990s and early 2000s. Their compilation of studies, including both Cuban researchers and foreign scholars, suggest that the value of yearly remittances ranged from $300 to $700 million from 1995 to 1999, increasing to between $800 million and $1.1 billion by 2003 (2005, 77).

Later on, González-Corzo and Larson (2008) argue that, from 2001 to 2006, remittances to Cuba increased by 27.5 percent; going from an estimated $730 million to $931 million in 2006. At that time remittances represented close to 34 percent of the value of exports and around 44 percent of receipts generated by tourism. Similarly, researchers from the U.N. Economic Commission for Latin America and the Caribbean (ECLAC) estimate total remittances to be around $1.0 billion a year, in 2005 (Molina 2005). While Morales (2010) argues that around 70 percent of Cuban households receive some form of remittances, which he estimates amounted to close to $1.4 billion in 2008.

As noted above, the former head of the Ministry of the Economy and Planning, José Luis Rodríguez, put the official estimate of the level of remittances for 2014 at $1.7 billion (Rodríguez 2016). This amount seems in line with the results from a number of surveys carried out in Cuba by researchers from the Inter-American Dialogue, estimating remittances of $1.3 billion for 2015 (Orozco, Porras, and Yansura 2016).

More recently, an independent poll conducted in Cuba by Miami-based firm Bendixen & Amandi indicates that around one-third of Cubans receive money from a family member abroad (Bendixen & Amandi 2015a). The survey, which was designed to be representative of the whole adult population in the country (Bendixen and Amandi 2015b), shows that more than 3 million Cuban adults receive payments from abroad, averaging around $1000, for a total of $3 billion in remittances every year. Indeed, analysts at The Havana Consulting Group estimate the total amount of remittances to be as high as $3.3 billion (Morales 2016), while the U.S. Department of State provides an estimate amounting to some $3 billion from the U.S. alone, in 2015 (U.S. Department of State 2016).

Remittances are expected to have increased in 2015 and 2016 because of a series of measures announced and implemented by the Obama administration to normalize, as much as possible through executive powers, U.S.-Cuba relations. Among the new measures was increasing the limit of remittances that Cuban-Americans could send to Cuba. As a result of Obama's actions some analysts expect as much as a doubling in the amount of remittances sent to the island (Morales 2016).

Chapter 4: Discussion and Policy Recommendations

Financial Institutions to Structure the Remittance Securitization

The economic and financial reforms of the 1990s included the creation of a number of commercial banks to complement the activities of the central bank. Among the newly created institutions was the *Banco de Inversiones S.A.*, founded in 1996 responding to a demand for investment banking services.

The securitization operation can be structured under current law by *Banco de Inversiones*. The license granted by the *Banco Central de Cuba*'s Resolution No. 45/2015 (BCC 2015) authorizes *Banco de Inversion*es to offer services such as financial engineering, asset securitization, and the emission and trade of debt instruments on behalf of third parties. To exercise these activities, among other, the Resolution allows the investment bank to act as an agent for structuring, registering, paying interest, redeeming, exchanging, and emitting bonds and other securities.

Moreover, under current law, *Banco de Inversiones* can sign contracts and establish agency agreements with national as well as foreign banks (2015, 634). This is important to notice because, as explained in the previous chapter, the remittance securitization requires the originator bank to establish a contract overseas ceding its rights to collect payments on the future receivables.

SWIFT and Money Transfer Operators

As briefly mentioned in Chapter 2 the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system is a global cooperative providing secure financial messaging services. SWIFT connects over 11,000 financial-institution members across more than 200 countries (see "Introduction to SWIFT" 2017). All nine Cuban commercial banks operate payments with the SWIFT systems and already receive transfers (including remittances) from a number of correspondent international banks—mainly European. Appendix B illustrates the Cuban banking system by listing national and foreign institutions licensed by the central bank to operate in Cuba, both bank and non-bank. It is important to notice that diversified

payment rights flowing through the SWIFT international network have been securitized since the early 2000s—including workers' remittances (Ketkar and Ratha 2009).

Moreover, there are a number of foreign banks with representation offices in Cuba, as well as international non-bank financial institutions, authorized by the Cuban government for the purpose of sending remittances to the island; including U.S.-based Western Union and Caribe Express. The latter even advertises to remitters the option of sending money through Cuba's *Banco Financiero Internacional*, *Banco Popular*, or *Banco Metropolitano* (Caribe Express 2017).

In short, the Cuban financial system is already directly linked to international institutions and capital markets. Thus, there is already a basic financial infrastructure in place from which the remittance securitization transaction can be constructed.

Estimate of a Potential Remittance-Backed Transaction

For the purpose of offering estimations of potential funds to be raised from securitizing remittances we will make a conservative estimate, in line with those reviewed in Chapter 2 and in line with the yearly amounts flowing to other countries in the area with similar characteristics to Cuba—regarding population and diasporas.

We are going to work with an ad hoc estimate of $2.0 billion a year. This number is within the range of the estimates reviewed earlier and it is also in line compared to Cuba's international neighbors. In fact, and only considering the emigration to the U.S., all the countries with over a million of its people in the U.S. (see table 7 below) have remittance inflows over $4 billion a year (from table above: Top 10 Remittance-receiving countries). While emigrants from those countries find other places of residence—other than the U.S.—there is no doubt that the U.S. is the principal destination and where the largest share of their emigrant population reside (Migration Policy Institute 2017b).

A good example is Dominican Republic, a country with characteristics similar to Cuba in terms of overall population and emigration to the U.S. Dominicans around the world remit more than $5 billion a year, as shown in Table 5 above. Particularly, the Dominican diaspora in the U.S. transferred about $3.8 billion in remittances in 2015, over 70 percent of the total 2015 remittances. Meanwhile countries like El Salvador and Guatemala receive virtually all

remittances from the U.S.; $4 and $6 billion, respectively (Migration Policy Institute 2017a). Likewise, the U.S. is the Mecca of Cuban emigration. Even when many people leave the island heading to other countries, usually their intention is to merely use the third country as a bridge on their way to the U.S. Indeed, a recent report from the D.C. based Inter-American Dialogue suggest that the U.S. was the destination of around 77 percent of Cuban émigrés, from 2010 to 2015 (Orozco, Porras, and Yansura 2016). While a 2012-2013 survey finds that around 68 percent of remittance recipients received money from the U.S. (Hansing and Orozco 2014). Thus, compared to other countries of the area the $2.0 billion a year seems a conservative estimate.

Table 7. Total Population and Share in the U.S. for Selected Latin American Countries, 2015.

Country	*Total Population*	*Population of this Origin in the U.S.*
Mexico	127,017,224	35,797,080
Colombia	48,228,704	1,081,838
Peru	31,376,670	646,395
Guatemala	16,342,897	1,377,500
Ecuador	16,144,363	712,084
Cuba	11,389,562	2,106,501
Dominican Republic	10,528,391	1,873,097
El Salvador	6,126,583	2,171,894

Source: Author's elaboration from World Bank (2017) and U.S. Census Bureau (2016) data.

Ad Hoc Estimate

As discussed above, through a securitization transaction the originator pledges future receipts expected over a number of years. That way the issuer can raise funds in capital markets that are multiple times higher than one year's worth of receivables. A World Bank primer on leveraging innovative finance techniques for development (Ketkar and Ratha 2009) offers a simple method for calculating the potential issuance of future-flow backed securities, taking into consideration the different risks that credit agencies judge. The point of deriving this potential, however, "is not to forecast, but to obtain a benchmark against which the severity of constraints on such issuance could be gauged," according to Ketkar and Ratha (2009, 36).

The calculation is based on two assumptions, that only a share of the total remittance inflows can be successfully attracted through the banking system and that the total debt issued is backed by several times that amount. As explained in Chapter 3, the securitization transaction would

issue the rights to only a portion of expected remittance inflows, that way if remittance receipts are lower than expected the extra collateral is available to cover the difference. In other words, overcollateralization is a way of credit enhancement by reducing the performance and volume volatility risks, while the very own structure of the securitization mitigates the convertibility and transfer risks associated with lending to developing countries.

Table 8 below shows several estimates for variations in the assumptions above; that is, for different levels of success in capturing remittances through the banking system and different overcollateralization ratios—based on the ad hoc $2.0 billion a year estimate of remittance inflows at which we arrived in the previous section.

For example, if we assume that only half of the yearly inflows are successfully channeled through the banks, we are left with $1.0 billion to be used for securitization. Next we apply an overcollateralization ratio of (e.g.) 5:1—i.e. that every $1 of debt issued is backed by $5 of expected receipts—and we obtain a potential issuance of remittance-backed debt of $200 million a year. In this example the 5:1 overcollateralization ratio means that remittance inflows would have to come short of expectations by 80 percent in order to jeopardize the ability of the SPV to service the principal and interest payments.

Table 8. Potential Yearly Remittance-Backed Securitization for Different Levels of Official Inflows and Overcollateralization Ratios. (US$ millions)

	Share of remittances through the banking system		
Overcollateralization ratio	*25 percent*	*50 percent*	*75 percent*
3:1	166.7	333.3	500.0
5:1	100.0	200.0	300.0
7:1	71.4	142.9	214.3
10:1	50.0	100.0	150.0

Source: Author's calculations, see text.

A Note on Monetary Sovereignty

In short, the *taxes-drive-money* approach—more extensively discussed elsewhere; e.g. Innes (1913), Kelton ([Bell] 2001), Tcherneva (2005), Wray (2012)—explains that governments first create a money of account and then create a demand for it by imposing taxes, fines, and other obligations in the national money of account. As Wray (2012, 50) puts it, "[i]n all modern

nations this is sufficient to ensure that many (indeed, most) debts, assets, and prices will also be denominated in the national money of account." The government then proceeds to issue a currency denominated in that same money of account, provided it always accepts payments in such currency.

In a highly centralized, command economy like the Cuban, the government can always ensure there is a demand for its *fiat currency(ies)*—even when they have no intrinsic value—because it is easier to enforce the legal tender laws than in a market economy dominated by private actors. Moreover, in Cuba, where private enterprise is extremely limited to a few services, virtually all transactions and payments (in addition to taxes and fines) are with the government, who has a monopoly on almost all resources needed in everyday life. Since the government can always dictate which currency it will accept in payments to itself, it thus guarantees a constant demand for its currencies.

The Cuban economy has been operating under a dual-currency system since the partial dollarization of the economy that took place after the economic depression of the early 1990s. American dollars (USD), mainly remitted by Cuban-Americans, began circulating in the underground economy and black-market as a consequence of the devaluation of the Cuban peso (CUP) and the hyperinflationary episode that followed. In 1993 the government legalized the circulation and use of USDs in the national economy, and from then forward both the CUP and the USD functioned as means of payments and unit of account. However, after the economy recovered from the depression and macroeconomic indicators stabilized, the government implemented a series of measures that by 2004 had substituted the functions of the USD by a third currency (that had already been in circulation, although marginally)—the Cuban Convertible (CUC) (Vidal and Pérez 2013). Thus, today the country has adopted its own monies of account and the government is the sole issuer of the two currencies denominated in those units of account. This allows the government, acting through its central and commercial banks, to always be able to make good on its obligations in the domestic markets that transact in those same currencies.[6]

[6] Concerns over inflation might limit such ability, in practice. Too much money in circulation chasing after too few goods and services might drive prices up, especially in an economy like the Cuban, where typically there are shortages of goods and services. This is likely one of the concerns that drove the government to start financing its

Understanding that the Cuban government—as the monopoly issuer of the fiat-currencies—does not face any financial constraints to fund its operations in the domestic markets that transact in those same currencies is crucial to answer the question: how can banks create demand deposits for remittance recipients if the remittance dollars (e.g.) are directed to an offshore trust?

The short answer to this question is that banks create demand deposits in CUP/CUC by simply crediting the remittance-recipient account. The banking system is not different to an "electronic scoreboard" system, in the words of Wray (2012, 60-61), in the sense that the banks can never run out of credits, no more than they can run out of keystrokes. However, even though banks create deposits *ex nihilo*—i.e. out of nothing—they still need to maintain the reserve requirements established by Central Bank regulations.[7]

The Role of the Interbank Market

It seems that the Cuban government realized that having excess reserves parked is costly for banks and as part of the recent economic reforms a resolution was passed establishing an interbank market where banks can more efficiently manage the reserves held in their balance sheets (see BCC's Resolution No. 91 2011). Resolution No. 91/2011 indicates that banks participate directly in the interbank market, as lenders or borrowers of funds, by establishing reciprocal accounts or through the Real-Time Gross Settlement system, using their accounts at the Central Bank. The Resolution also directs the BCC to monitor, organize, and regulate this market through direct and indirect interventions.

Later on the government determined that starting in 2014 a fraction of the fiscal deficit would be financed by the emission of sovereign bonds. These bonds are to be purchased by the commercial banks as an interest-bearing alternative to their excess reserves and could be used as a debt instrument in the interbank market (González García and Lage Codorníu 2017).[8]

This new interbank market would play a central role complementing the remittance securitization transaction by allowing commercial banks to secure the reserves they need to

deficit by emitting sovereign bonds to be bought using reserves sitting in the banks instead of by letting the BCC finance it through primary money emissions (Gónzalez García and Lage Codorníu 2017).

[7] According to the Central Bank of Cuba's official webpage, currently the reserve requirements are 10 percent for national currency and 5.5 percent for foreign (see "Encaje" 2017).

[8] The rest of the deficit will continue to be monetized in coordination with the Central Bank.

comply with the reserves ratios required by monetary policy regulators. In other words, the banks can create the demand deposits for remittance-receivers regardless of the amount of reserves they hold and then just turn to the interbank market to find any amount of reserves they need as a requirement. Moreover, not only the creation of demand deposits is not constrained by the quantity of reserves held by a particular bank, but it is also not a function of the reserves held by the entire banking system, for that matter. This is because the Central Bank will ultimately accommodate the demand for reserves to narrow the fluctuations of the interest rate in the interbank market, which is to be agreed upon between commercial banks (BCC Resolution No. 91 2011).

Resolution No. 91 (BCC 2011), governing the interbank market, allows the Central Bank to participate through a number of direct and indirect tools. The policy kit includes open market operations and the intervention through two interest rates that effectively allow the monetary policy committee to operate an interest rate corridor system in the interbank market. The ceiling rate is set by the BCC's permanent credit service,[9] through which commercial banks can borrow any amount they need in the short term—typically overnight[10]—at a fixed Lombard rate. While the lower bound is set by the interest rate paid to the banks on reserves deposited at the BCC when they buy public debt from the central bank. Ultimately, the BCC can act as lender of last resort (LOLR) at a discount rate (see BCC's Resolution No. 33 2010) for any particular or systematic liquidity problems in the banking system—and, as explained above, is not financially constrained in its ability to inject reserves (in the national currencies) into the system.

To summarize this section, the language in the Resolution establishing the interbank market (Resolution No. 91/2011) and in the BCC's memorandum setting its interest rates in this market (see BCC Circular No. 2/2012) indicates a reluctance of monetary authorities to primary monetary emission. This can also be interpreted by the way in which the interest rate corridor system works, encouraging banks to lend/ borrow reserves amongst themselves (Pérez Soto and Lage Codorníu 2012). Thus, commercial banks are directed to the interbank market as a first option when they need reserves, before liquidating any assets or accessing the credit services of

[9] An automatic overdraft on bank's checking accounts at the BCC.
[10] Similar to the Federal Reserve's discount window.

the BCC. And, the monetary authorities expect the BCC to play the role of LOLR only when all other alternatives have been exhausted, in order to avoid primary emission of money.

The short answer to the question formulated at the end of the previous section—regarding the ability of banks to create demand deposit for remittance recipients—now becomes longer: Banks create demand deposits *ex nihilo* in CUP/CUC by simply crediting the remittance-recipient account and adjust their excess reserves to comply with the required reserve ratios. Banks continue to create demand deposits even if they run out of reserves, at which point they are mandated to turn to the recently created interbank market to procure the reserves. If the interbank market cannot provide the reserves in demand this will bid up the interbank rate and the BCC will step in to maintain its target interest rate. As we have seen before, the BCC's policy kit includes buying government debt from the banks in the open market, offering a short term permanent credit service, and acting as the ultimate credit creator through its LOLR faculties.

An alternative way to interpret the process described above is that under the remittance securitization banks would be buying dollars from remittance recipients in a similar manner to how they already do on the spot—i.e. accepting dollars and offering the equivalent cash amount of CUP/CUC. The difference is that with the securitization transaction the banks in Cuba purchase the foreign currency directly from the originators of remittances, before the hard currency enters the national territory, in exchange for the promise of delivering the recipient the required amount of national currency. As argued above, the foreign currency is directed to an offshore escrow account, which is necessary to mitigate the transfer and convertibility risks associated with lending to developing nations.

Finally, while transfer and convertibility risks are important components of sovereign risk, credit rating agencies consider other elements, such as diversion risk—i.e. the risk that changes in government policies might disrupt the payments sent to the offshore trust or central bank interferences with capital controls. Ketkar & Ratha (2009) argue that central banks in countries like Brazil and Mexico, for example, have recognized the advantages of securitized borrowing and therefore do not implement policies that disrupt the transactions. To reduce this type of country risk private banks typically strike agreements with the central banks to guarantee, as much as possible, that the central bank would not intervene to disrupt the operation. What is

important to notice here is that in the particular case of Cuba, since the banks are state owned, the securitization in itself would be a state ran operation ran and orchestrated in coordination with the BCC. Thus the risks that the state or the central bank would take steps that disrupt its own transaction, inducing a self-inflicted default on its securitize debt, is significantly lower than in private banks' securitizations.

Challenges to Channeling Remittances through the Banking System

The use of this innovative source of financing in the context of Cuba can be seen as a twofold problem. First, the country needs to implement a series of macroeconomic policies that would channel a larger share of remittances through the banking system. Then, assuming the securitization has successfully been carried out and the future flows sold to investors, the government needs to decide where best to direct the revenues. The following sections analyze the challenges and limitations to funneling remittances through Cuban official channels, and then argue how this tool fits within current structures and institutions of the Cuban economy.

A major obstacle to a FFS transaction backed by remittances flows in Cuba is precisely channeling large enough inflows through the national banking system that would make issuing the debt instrument a viable alternative. According to surveys conducted in Cuba and in the U.S., around half of the remittances sent to the island arrive via friends or the so-called "*mules*"[11] (Orozco 2009; Diaz-Brisquets 2008). Thus, the biggest challenge to the implementation of a remittances-backed instrument would be reducing the use of unofficial channels.

The use of *mules* to routinely carry money and goods to the island is extremely popular because it offers benefits to both the remitter and the recipient. The most important of which are that they charge cheaper fees than formal transfer services, avoid bureaucratic procedures or legal requirements, offer home delivery services and option to withdraw funds almost immediately after money has been deposited, and have established cross-border trust (Eckstein 2004). While the larger part of remitters use these informal channels, some still use wire services—e.g. Western Union has over 400 locations in Cuba—even though they charge higher fees and they require senders to fill out affidavits to comply with Embargo laws.

[11] Is the term commonly used to refer to unlicensed remittance carriers.

It should be noted, however, that the use—even extensive use—of informal channels to send monies back to home countries is not limited to Cuba. According to the World Bank (2005), the official amount of remittance flows to developing country could be underestimated by close to half.

The use of informal channels responds to four main reasons. First, there is an evident lack of banking infrastructure and a really backward/primitive financial culture. Only a very small percentage of the Cuban population has checking, savings accounts and even smaller percentage have something similar to a debit card. Banks do not emit credit cards for the general public. Second, the costs are considerably lower when using mules than any of the formal systems, whether is a bank or money order like Western Union. As shown in the Table 9 below, Cuba has the highest average and total costs for sending remittances among countries of the area.

Table 9. Cost of Sending $200 in Remittances from U.S. to Selected Area Countries. (4th Q2016 averages)

Country	*No. Of Firms*	*Access Points for Senders*	*Receiving Methods*	*Average Fee (US$)*	*Total Cost (percent)*	*Total Cost (US$)*
Dominican Republic	10	Agent, Internet, Bank Branch	Home delivery, Agent, Bank Account Transfer	8.99	6.14	12.28
Ecuador	10	Agent, Internet, Bank Branch	Agent, Bank Account Transfer	7.22	3.61	7.22
El Salvador	11	Agent, Internet, Bank Branch, Call Center	Home delivery, Agent, Bank Account Transfer, Bank Branch	8.45	4.23	8.45
Honduras	6	Agent, Internet	Agent, Bank Account Transfer	8.55	3.54	7.07
Brazil	8	Agent, Internet	Agent, Bank Account Transfer	7.12	7.84	15.69
Cuba	1	Agent, Internet	Agent	**16**	**10.92**	**21.84**

Source: Author's elaboration from World Bank's data (see "Remittance Prices Worldwide" 2017).[12]

The third reason is trust; there is a general lack of trust in the government. Not only have *mules* won the trust and confidence of the remittance senders and receivers, but there seems to be a general lack of trust in the ability of the Cuban government to deliver hard currencies at

[12] It should be pointed out that the World Bank lacks data on a number of other firms participating in the Cuban remittance markets, as explained in previous chapters.

request, especially since the central bank has imposed capital controls in several occasions in the past (Vidal and Pérez 2013).

Finally, the sanctions from violating the U.S. embargo against Cuba impose limitations and restrictions on the use of conventional financial canals; pushing financial transactions, from which the Cuban government could potentially profit, to informal channels.

Responding to the Challenges Noted Above

Policy of Incentives

A number of countries have attempted, and failed, to capture remittances by directly taxing these flows. This can be counter-productive if the intended policy is to promote the use of formal channels because taxing remittances incentivizes and increases the use of informal channels (Agunias 2006; Hagen-Zanker 2014).

Instead, some countries have found that offering tax breaks and premium exchange rates—to both receivers and senders—is a more effective incentive to direct remittances through formal channels as well as to stimulate the total amount of inflows. As Agunias (2006) argues, a "carrots rather than sticks"-policy seems to be the most common approach to this end. A World Bank survey of central banks in forty developing countries finds that 35 percent of those countries grant migrants special incentives to send money back home. Those incentives include, tax breaks, higher interest rates for deposits, and preferential prices for land purchases (de Luna Martínez 2005).

Other than Tax Breaks

Another alternative is offering certificates carrying interest rates above what the government pays for saving deposits; i.e. a premium interest rate. Some countries, like Bangladesh, India, and Tunisia, have experimented with special types of deposit accounts at preferential interest rates (Agunias 2006). Other financial products, like savings packages or pension funds can also be made attractive by exempting, to some degree, interest from taxation when they are funded by remittances.

Reducing Costs and Fees

While the above mentioned represent an effort from the home country to indirectly ameliorate the costs of sending remittances, reducing transfer costs seems to be a decisive factor. Existing evidence reviewed by Yang (2011) suggests that the number of remittance transfers and the amounts sent can be highly susceptible to costs and fees reductions. Additionally, Freund and Spatafora's data (2008) shows that transaction costs are negatively correlated with total flows of remittances at the country level, indicating that high transaction fees restrain migrants from sending money home or push them to remit through informal channels.

One observed element that influences costs is competition. As Orozco (2002, 1) argues, "remittances appear less costly when competition is greater." Indeed, a World Bank study across 119 countries finds that remittance corridors with greater competition among providers are associated with lower remittance prices (Beck and Martínez Pería 2011). Competition has the added benefit of improving the quality of the service in terms of reliability and the times it takes to complete a transaction. As noted by Yang (2011, 146), policies that "increase competition in money transmission markets or improvements in information for migrants on the relative costs of different money transmission services" can have large impacts on future remittance flows. These claims are in line with the findings in Watkins and Quattri (2014) suggesting that lack of competition, market power concentration contribute to high remittance charges. Indeed, according to Wimaladharma, Pearce, and Stanton (2004) the cost of sending remittances decreased by half in five years as a result of increased competition in the U.S.-Mexico corridor.

Unfortunately, as illustrated in Table 9 above, competition in the formal channels in Cuba is extremely limited. Thus, Cuba stands to benefit from potential significantly lower transaction costs, with the entrance of additional banks and money-transfer agencies in its remittance market.

Moreover, reducing or eliminating altogether the current 10 percent surcharge on USD cash exchange would also lower de facto costs, helping flush-out additional hard currency from the informal channels and into the national financial system.

In a way, the Cuban government seems implicitly committed to lowering remittance transfer costs. This is because the reduction of remittance costs is a strategic target of the United Nations 17 Sustainable Development Goals (see "Sustainable Development Goals).

Specifically, Goal number 10, "Reduce inequality within and among countries," includes the specific target of "reduc[ing] to less than 3 per cent the transaction costs of migrant remittances," by 2030. The fact that the Cuban government is committed to achieving these Goals (Acosta 2015) allows us to expect future policies aimed at lowering transfer costs.

Technology

New technologies can have an important role to play as an alternative to the lack of financial infrastructure in the country. Especially relevant would be extending internet and mobile services to the whole population; services that are extremely restricted in Cuba. The extensive use of these services would open the door to a currently excluded large part of the population, including many in remote, rural areas. Building upon current structures to improve internet and mobile banking can help bypass the construction of a costly network of banks, branches, ATMs, etc. Examples of this type are the M-Pesa project between Kenya and the U.K., and the G-Cash system offered by Globe Telecom in the Philippines (Agunias 2006). These services allow remitters to send money via mobile phone. Extending banking services and financial culture to the unbanked can make those people more likely to use these services for remittance-receiving purposes than before.

Moreover, digital remittances—particularly mobile—are estimated to significantly reduce transfer costs. A report by Ahmed, McDaniel, and Schropp (2016) compares the costs of sending remittances via digital platforms Xoom and PayPal[13] with World Bank data on traditional remittances prices—e.g. bank accounts, money transfer operators, nonbank financial institutions. The researchers find digital remittances to be an average 3.5 percentage points cheaper than the World Bank data, 3.93 and 7.45 percent respectively. Their findings seem to be in line with other studies of this type that have found mobile remittances to be on average around 50 percent cheaper than using money transfer operators (Farooq, Naghavi, and Scharwatt 2016).

There are a number of advantages that help explain the lower costs of digital remittances—e.g. the reach and speed in which these transactions are completed, taking only a few taps on a

[13] PayPal is an American company operating a worldwide internet payments platform with around 188 million user accounts in more than 200 markets. Xoom is a PayPal service to make it easier to send money across countries (Ahmed, McDaniel, and Schropp 2016).

phone and only seconds to send remittances from across the world; or the 24 hours availability, as opposed to physical locations that have working hours (Ahmed, McDaniel, and Schropp 2016; Farooq, Naghavi, and Scharwatt 2016). Additionally, because digital remittances are linked to a bank account the service offers the security of not having to carry large sums of cash from/to a bank branch or agency. Digital remittance services also increase competition among providers, a key factor mentioned above.

The Issue of Trust

Finally, the trustworthiness issue is one that needs time to be overcome. A crisis of confidence creates disincentives for foreign currency to enter the country through the banking system. People can always choose to accumulate their savings physically in international currency, for the security it might offer in an uncertain environment of economic reforms. However, a good starting point is for the government to reverse this crisis of confidence to maintain or even accelerate the pace of the process of "updating" of the economic model and the reforms contained in the Guidelines. By making good on its promises and plans the government would be offering some assurance of its commitment to a specific policy—a sort of "forward guidance," à-la Fed. In this case, remittance senders and recipients would need to be convinced that moneys sent through the Cuban banking system would find its destination in a safe, timely manner.

Interplay of the Remittance Securitization in the Cuban Economy

The two main advantages securitization offers developing countries is that it allows to break with the sovereign credit ceiling—opening the door to debt financing at better terms—and that it allows to cash-in "today" the revenues expected over a number of future periods. So what to do with the millions of foreign currency potentially to be raised through the remittance securitization? In this section we suggest three key elements in the Cuban economy that stand to benefit from which finding new sources of external finance is imperative.

Finance for Development

The most obvious use to the funds raised through a remittance securitization would be to leverage them for expensive capital or development projects. This is precisely the premise of Ketkar and Ratha (2009, 1), who argue that "lacking credit history, and given the perception by

investors that investments in these countries can be risky, developing countries need innovative financing mechanisms."

Recently, renowned Cuban economist Pedro Monreal has called attention to an investment gap of close to CUP10 billion needed get the economy growing at rates compatible with the national plan for economic development (Monreal 2016, 2017b). Thus the remittance securitization stands as a prospective mechanism to close a large part of the funding gap for development (see Table 8).

Debt Repayment

As argued in Chapter 1, Cuba is facing an international environment favorable to improving its external creditworthiness. To this end, one of the most important factors will be the timely fulfillment of the current debt obligations. However, while the political willingness to honor debt commitments seems to be there, as President Castro has repeatedly promised in recent speeches (Castro 2015), the ability to generate hard currency receipts to meet the new outflows might be lacking.

Given the hard currency constraints under which Cuba operates, it is hard to guess what will be the source of funds for the servicing of the debt; especially since virtually no debt payments have taken place in past years. Then the question arises about the appropriateness of redirecting funds that were being used in other activities and assign them for the debt repayment. This would be tantamount to an austerity policy while the economy just entered a recession at the end of 2016.

In this context we see a space for the securitization operation. In the example used above, the remittance securitization could potentially—and conservatively—raise some $200 million a year. Due the lack of information on contractual agreements we do not know precisely how the debt service is scheduled, but given that the first payment to the Paris Club creditors was for $41 million, a securitization transaction in the middle of Table 8 could raise several years' worth of those payments.

Monetary Reform

The Guidelines constituting the Communist Party's platform for economic and social policies declares a much needed monetary reform as one of the government's top priorities. The monetary reform—which has been predicted, planned, and postponed several times in the past—seems imminent as Raúl Castro approaches the end of his (self-imposed) presidential term.

As mentioned earlier in this chapter, for over two decades the Cuban economy has been operating under a dual-currency, -exchange rate system (see table 10 below). The coexistence of two currencies with different exchange rates introduces a number of economic, efficiency, and accounting distortions that some economists have called "the Achilles' heel" of the current process of modernizing the economic system in Cuba (Amuchástegui 2014, 176).

Table 10. Different Exchange Rates for CUP and CUC, 2015.

Currency Pair	*Population and Tourists (in currency exchange houses)*	*Firms and Public Institutions*
Cuban Peso/Cuban Convertible	24.0	1.0
Cuban Convertible/U.S. Dollar	1.0*	1.0
Cuban Peso/U.S. Dollar	24.0	1.0

*An additional 10 percent tax is imposed on USD cash exchanges.
Source: Author's elaboration from Office of National Statistics' data (ONEI 2015).

Some of the distortions mentioned above are described in The Economist as,

> a bizarre anomaly in Cuban accounting, whereby state companies pretend in their balance sheets and domestic trading books that one CUP equals one CUC. The practice has prevented CUP inflation. But it has made imports seem artificially cheap and exports unprofitable. It also obfuscated inefficiencies that plague Cuba's predominantly state-owned businesses. (The Economist 2013)

The literature surrounding this issue argues that one of the most important policy measures to be introduced to solve the parallel circulation of two currencies is the devaluation of the exchange rate of the Cuban peso (Vidal and Pérez 2013; Amuchástegui 2014; de la Torre and

Ize 2014), which is the currency expected to remain after the unification.[14] There seems to be a consensus from both government officials and economists about the need for devaluation of the CUP (Vidal and Pérez 2013); which has been called the "backbone of the unification process" (Amuchástegui 2014, 180).

The reforms are usually discussed in the context of whether the depreciation should be a big-bang kind of shock or if the government should implement a gradual depreciation, either by sectors or globally and with or without subsidies to state companies that would suddenly become less competitive (Vidal and Pérez 2013; Amuchástegui 2014; de la Torre and Ize 2014). Indeed, Pavel Vidal, a former monetary policy specialist from the BCC, regularly refers to the devaluation as the single most important measure to be implemented in this process (2009, 2012; Vidal and Pérez 2013). And, moreover, the authors argue that the unification process must be complemented or cushioned by fiscal policy that "absorbs the effects of the eventual devaluation" (Vidal and Brown 2015, endnote no.3, 20).

Vidal and Brown (2015) seem to suggest that the funds for these cushions could be secured from international organizations like the International Monetary Fund or the World Bank acting as hard-currency lenders of last resort; for which they recommend previously Cuba join those institutions. While other authors suggest that foreign exchange reserves and a healthy fiscal surplus would facilitate the unification, but do not argue how to arrive at either of those (de la Torre and Ize 2014). In this context, we propose the remittance securitization as a vehicle that could potentially raise important amounts of foreign currency reserves to be used as the fiscal cushion needed for the monetary reform.

[14] According to Amuchástegui (2014) government officials have been quoted in the official newspaper of the Communist Party stating that it is imperative to restore the money functions of the Cuban peso—that is, as unit of account, means of payment and store of value.

CHAPTER 5: CONCLUSIONS

The scarcity of foreign currency in the hands of the government jeopardizes the economic and social development of the nation, in general, and, in particular, the ability of the leadership to successfully restructure, revitalize, and "update" the economy, while escaping a looming recessionary episode and fulfilling external debt commitments. There currently exists a substantial inflow of this much needed foreign exchange in the form of remittances. Remittances are a mostly untapped source of external financing, which can be leveraged through innovative financing mechanisms. We set out to examine one of such mechanisms—remittance securitization.

The financial reforms undertaken in Cuba since the 1990s, including the country's use of its moneys of account and the interbank market, create a sufficient financial infrastructure to structure a remittance securitization operation. We have identified the financial institution under whose umbrella of responsibilities the financialization of assets can be done, and we have identified how the securitization plays out and complements the newly created interbank market for reserves and public debt. In short, the Cuban commercial banks are sitting on piles of excess of reserves for which they have little use, which seems to have been an important determinant in the recent decision to use those reserves to fund the fiscal deficits (González García and Lage Codorníu 2017). These reserves can be used as the first option to maintain the reserve ratios, after a bank pays remittance-receivers the required amounts in local currency. If a bank is short of reserves, it can find the funds it needs to maintain the reserve requirements in the interbank market. The central bank will step-in through a number of policy tools discussed above, including open market operations, to maintain the liquidity in the system that corresponds to the desired interest rate in this market. And, as discussed above, the monetary sovereignty allows the BCC to always be able to maintain liquidity in the system and to act as lender of last resort, in the national moneys of account.

In Table 8 we show some benchmark amounts—again, not a forecast—that could potentially be raised with remittance-backed securities, depending on a couple of assumptions. The securitizations of expected revenue streams are structured to significantly reduce developing

countries' transfer and convertibility risks. This is done by directing the future foreign currency inflows to an offshore account, keeping the receivables outside the borrowing country until investors have received their interest and principal payments. Other remaining risks considered by credit rating agencies—e.g. product, diversion—would also be largely mitigated for the particular case of a Cuban remittance securitization. The product risk, associated with the volume of receivables, is lessened by the large and growing yearly remittance flows to the island. While the risks that either the government or the central bank would take steps to disrupt its own operation—i.e. diversion risk—is significantly lower than in this case vis-à-vis private banks' securitizations. Overcoming the performance risk, which is associated with the ability of the debt-issuing institution to generate the receivables, can be the most challenging issue, as it applies to the ability of the Cuban government to direct remittances through their banking system and out of the informal channels. To overcome this issue we made a series of policy recommendations that aim at strengthening the financial infrastructure and make banks more attractive to remitters than informal channels.

We argued that those characteristics of the securitization structure allow breaking with the country credit rating, potentially leading to improved credit scores and hence better terms on the debt—which would result in lower interest rates and longer terms. However, estimating the precise rating the securities could score is out of the scope of this paper. Rating agencies usually maintain confidential the rating methodologies they employ. Their scores also carry a large weight of subjective judgment of their analysts and their variables do not carry the same weight depending on the country; which means that there is no exact model to apply to all countries.

As explained in Chapter 3, the re-emergence of inequalities long thought to have been eliminated by the Revolution is to a great extent a reflection of the unequal access to remittances by different sectors of the population. However, as Espina (2005) argues, creating a more egalitarian Cuban society does not necessarily mean going back to the pre-1990s crisis model, but to implement and exploit available alternatives for economic and social policies that create more equalizing outcomes. The securitization of remittances can indirectly become one of such alternatives by democratizing these otherwise private flows; providing the government with funds that can be directed to economic, social policies and projects that ameliorate the inequality bias of remittances. From this perspective, the securitization of remittances would be

an especially attractive policy for the government to reduce socio-economic disparities in the Cuban society. This is of the utmost importance for the government considering that inequality is, arguably, a sufficient condition for the failure of fifty years of a Revolutionary project that has strongly tied its legitimacy to outcomes of socio-economic equality.

Finally, the arguments developed here and the suggestions should be taken as a first approximation from where to extend further impact, pros, and cons of a potential remittance securitization. Prudence and caution should be exercised when resorting to debt finance in order to avoid excessive debt burden, the dangers of which have been extensively demonstrated both empirically and theoretically. Moreover, cashing-in as a lump sum today the future receipts over a number of years, can also have implications regarding future fiscal flexibility. By committing the future stream of remittance inflows to service the principal and interest payments from the securitization, the government is effectively earmarking future resources under its budget, limiting its flexibility to adjust to changing circumstances. These are issues for government officials to consider when adjusting their budgetary decisions and the composition of their balance sheets.

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APPENDIX A

Table A1. Evolution of selected macroeconomic indicators in the Cuban economy, 2000-2015.

	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***
	Millions of CUP (constant 1997 prices)								
Gross Domestic Product (GDP)	28,574.3	29,484.4	29,904.4	31,038.6	32,829.8	36,507.3	40,912.2	43,883.3	45,689.9
Components of GDP:	*Percent of GDP (at constant 1997 prices)*								
Private Consumption	59.3	59.7	60.1	61.5	59.0	53.3	56.4	53.4	50.4
Government Consumption	25.8	25.9	26.5	27.4	28.2	28.0	26.9	27.7	27.3
Gross Capital Formation	13.2	12.9	11.4	9.9	10.6	12.7	14.3	13.6	15.9
Exports of Goods and Services	18.0	16.8	16.0	16.3	18.3	24.3	22.0	23.3	25.0
Imports of Goods and Services	16.4	15.3	14.0	15.1	16.1	18.2	19.6	18.1	18.6
Other Macroeconomics Indicators:									
Fiscal Deficit	-2.2	-2.3	-3.0	-3.0	-3.7	-4.6	-3.2	-3.2	-6.9
External Debt	.	.	.	.	15.2	13.8	14.8	15.2	19.1
	Percent								
GDP annual growth rate (constant 1997 prices)	5.9	3.2	1.4	3.8	5.8	11.2	12.1	7.3	4.1
Consumer Price Index (annual change)	.	.	.	.	3.0	3.7	5.7	2.8	-0.1
Unemployment Rate	5.4	4.1	3.3	2.3	1.9	1.9	1.9	1.8	1.6
Labor Force Participation Rate	69.9	70.7	70.9	70.9	71.0	72.1	72.1	73.7	74.7

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	2009	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***
	Millions of CUP (constant 1997 prices)						
Gross Domestic Product (GDP)	46,353.0	47,461.0	48,791.0	50,262.0	51,643.0	52,184.0	54,500.1
Components of GDP:	*Percent of GDP (at constant 1997 prices)*						
Private Consumption	50.1	52.8	52.1	52.2	53.4	55.3	56.8
Government Consumption	27.4	27.3	26.3	25.4	24.9	24.4	23.3
Gross Capital Formation	12.7	12.3	13.0	13.6	13.7	12.9	14.6
Exports of Goods and Services	25.4	28.2	29.0	28.2	28.0	26.9	25.7
Imports of Goods and Services	15.6	20.7	20.4	19.3	20.0	19.5	20.5
Other Macroeconomics Indicators:							
Fiscal Deficit	-4.9	-3.6	-1.7	-3.7	-1.3	-2.2	-5.8
External Debt	19.8	21.1	20.2	17.1	15.4	.	.
	Percent						
GDP annual growth rate (constant 1997 prices)	1.4	2.4	2.8	3.0	2.7	1.0	4.4
Consumer Price Index (annual change)	-0.1	1.6	3.6	2.0	0.6	2.1	2.8
Unemployment Rate	1.7	2.5	3.2	3.5	3.3	2.7	2.4
Labor Force Participation Rate	75.4	74.9	76.1	74.2	72.9	71.9	69.1

Source: Author's elaboration from Office of National Statistics and Information data (ONEI various years).

APPENDIX B

According to information available in Banco Central de Cuba's website, the national banking system is constituted by 9 commercial banks, 15 non-bank financial institutions (NBFI), 11 representation offices of foreign banks, and 4 representation offices of non-bank financial institutions. Among them are the following:

Table A2. List of Financial Institutions in Cuba.

Cuban commercial banks	***Country***
Banco Nacional de Cuba	Cuba
Banco Popular de Ahorro	Cuba
Banco de Inversiones S.A.	Cuba
Banco Metropolitano S.A.	Cuba
Banco Internacional de Comercio S.A.	Cuba
Banco Financiero Internacional S.A.	Cuba
Banco de Crédito y Comercio	Cuba
Banco Exterior de Cuba	Cuba
Banco Industrial de Venezuela Cuba S.A.	Cuba & Venezuela

Cuban NBFI	***Country***
Grupo Nueva Banca S.A.	Cuba
Compañía Fiduciaria S.A.	Cuba
RAFIN S.A.	Cuba
FIMEL S.A.	Cuba
CADECA S.A.	Cuba
Corporación Financiera Habana S.A.	Cuba
Financiera Cimex S.A.	Cuba
Financiera para el Turismo S.A.	Cuba
Financiera Iberoamericana S.A.	Cuba, Banco de Sabadell
Compañía Financiera S.A.	Cuba
Azucarera S.A.	Cuba
FINTUR S.A.	Cuba
Servicios de Pago de Red S.A.	Cuba
FINEXIM S.A.	Cuba

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Foreign banks with representation offices in Cuba	***Country***
Havin International Bank Ltd.	UK
National Bank of Canada	Canada
Banco Bilbao Vizcaya Argentaria, S.A. (BBVA)	Spain
Banco Sabadell S.A.	Spain
Bankia S.A.	Spain
Fransabank Group	Lebanon
Republic Bank Ltd.	Trinidad and Tobago
BPCE International et Outre- mer (BPCE IOM)	France
Scotiabank (The Bank of Nova Scotia)	Canada

NBFIs with representation offices in Cuba	***Country***
Fincomex Limited	UK
Novafin Financiere S.A.	Switzerland
Caribbean Tulip Finance Inc	British Virgin Islands

Source: Banco Central de Cuba (see "Sistema Bancario" [Banking System] 2017).